

sPDS-480ca 24V

INSTALLATION INSTRUCTIONS

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INTRODUCTION

The sPDS-480ca 24V is a rack-mountable, Ethernet power / data supply. sPDS-480ca 24V provides power and data to 24V Chromasic®-driven fixtures.

This document contains important information on installing and using the sPDS-480ca 24V. Please read it carefully and save it for future reference.

Included in This Box

- Power / data supply
- US IEC Cord Set
- Four right angle mounting brackets with hardware (eight screws - M4 pan head Phillips)
- Two stainless steel Rack Mount handles with hardware (four screws - M4 flat head Phillips)
- Installation Instructions

Additional Items Needed

- Rack Mount hardware
- Surface Mount hardware – eight screws suitable to the mounting surface
- Compatible Color Kinetics controller(s)
- Ethernet Switch
- Dedicated Ethernet Network
- CAT5 Ethernet cable

Scope of this Installation Instructions

The scope of this document is to explain the steps necessary to install sPDS-480ca 24V with Ethernet control and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provisions of a regulation or state and / or local code.



Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4-2002 the following system of identifying the severity of the hazards associated with the products is used:

“**DANGER**” Imminently hazardous situation which, if not avoided, will result in death or serious injury.

“**WARNING**” Potentially hazardous situation which, if not avoided, could result in death or serious injury.

“**CAUTION**” Potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage. Also used to alert against unsafe practices.

IGNORING A HAZARD WILL VOID ANY WARRANTY.

WARNING: Ensure that power is disconnected before installing, wiring, or servicing sPDS-480ca 24V.

WARNING: sPDS-480ca 24V must be installed by a qualified professional in accordance with NEC and relevant local codes.

WARNING: Do not attempt to install or use sPDS-480ca 24V until you read and understand the installation instructions and safety labels.

WARNING: The sPDS-480ca 24V power supply must be installed without any ventilation openings facing down.

WARNING: Do not use sPDS-480ca 24V if power cables are damaged.

WARNING: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CAUTION: Ensure that sPDS-480ca 24V is securely attached, properly mounted, and free of excessive vibration.

CAUTION: Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures.

CAUTION: Do not modify or alter sPDS-480ca 24V.

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, or relevant to all applications as Color Kinetics cannot anticipate all conceivable or unique situations.

Owner / User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate sPDS-480ca 24V in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standards Institute Safety Code.

NOTE: sPDS-480ca 24V is shipped with a US IEC power cable. For international customers, use a country-specific IEC cable meeting the following specifications: 3-conductor, 16 AWG (1.00mm²), HAR rating for Europe, and JET rating for Japan.

INSTALLING sPDS-480ca 24V

sPDS-480ca 24V shall be installed by a qualified electrician / technician in accordance with NEC and relevant local codes for power supplies. A power screwdriver is recommended for mounting the unit.

CAUTION: sPDS-480ca 24V must be installed in a location that allows air to move freely at the front and rear of the housing. Failure to do so may result in minor or moderate injury or property damage and will void the warranty.

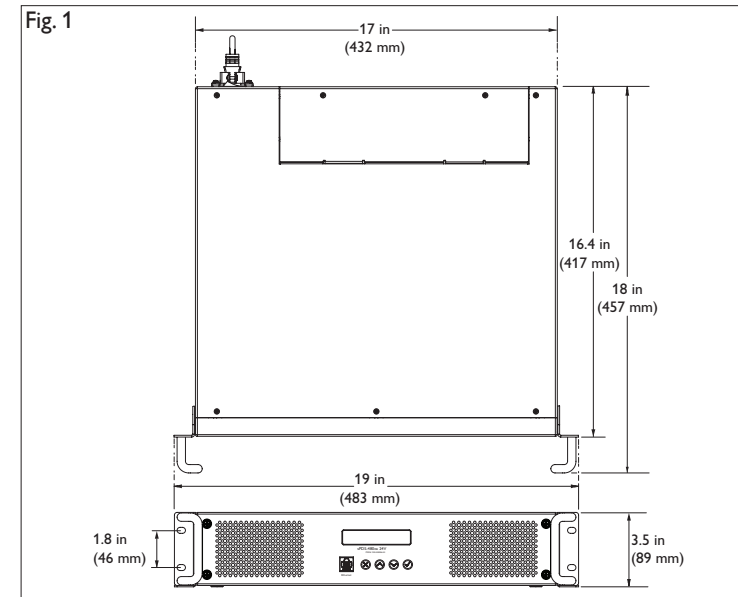
Mounting the Housing

sPDS-480ca 24V can be rack-mounted or surface-mounted (mounted on a horizontal or vertical surface). Select the location of the rack or the mounting surface, keeping sPDS-480ca 24V within the maximum distance specified for your fixture. Refer to your fixture user guide for the cable run information.

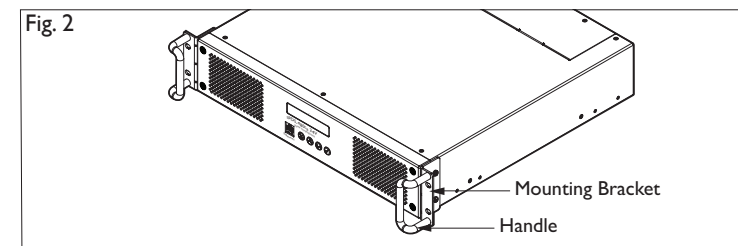
NOTE: Ensure that there is adequate space to make all connections to the front and rear of the unit.

Rack Mount

sPDS-480ca 24V can be mounted into a standard EIA-310 compliant rack. Fig. 1 shows the dimensions for rack mounting.



- Attach one stainless steel handle to each of the mounting brackets using the mounting screws provided (two for each handle). (See Fig. 2.)



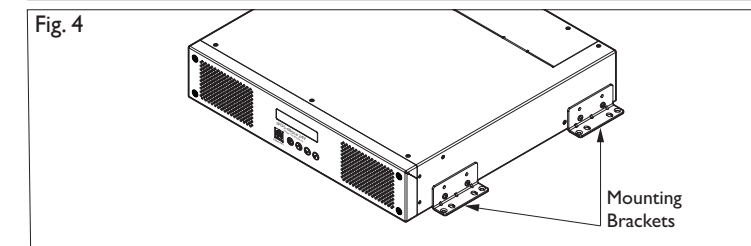
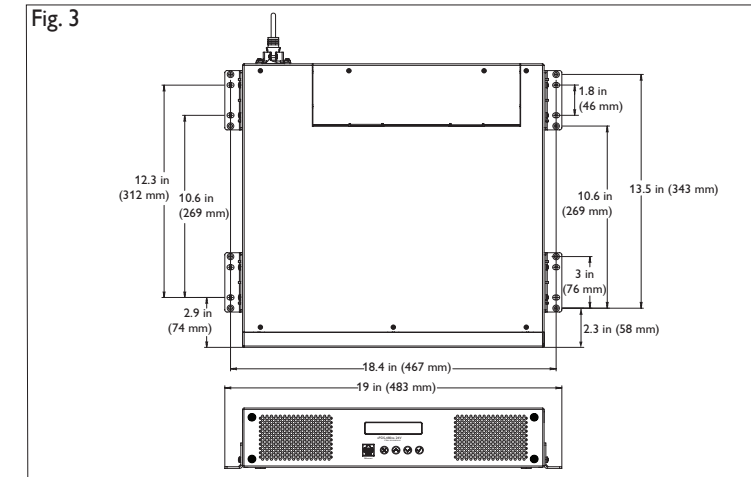
- Attach two mounting brackets to the front of the unit (see Fig. 2) using the mounting screws provided (two for each bracket).
 - Mount the housing to a rack using four #10 or #12 screws and lock washers supplied with rack.
- NOTE:** Multiple sPDS-480ca 24V units can be installed in a single rack. Do not mount units directly on top of each other.

Surface Mount

Fig. 3 shows the dimensions for surface mounting.

- Attach two mounting brackets to each side of the sPDS-480ca 24V using the mounting screws provided (two for each bracket). (See Fig. 4.)
- Mount the housing to the surface using eight screws (two for each bracket) suitable for the mounting surface.

CAUTION: If your application is temporary and may be moved, it is recommended that sPDS-480ca 24V is installed on a rack tray. Failure to do so may result in minor or moderate injury or property damage and will void the warranty.

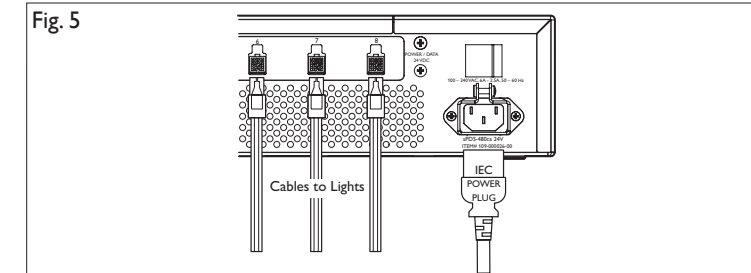


WIRING sPDS-480ca 24V

After mounting sPDS-480ca 24V, you are ready to connect power, lights, and data to sPDS-480ca 24V.

Connecting Power to sPDS-480ca 24V

- Connect the IEC power cable to the back of sPDS-480ca 24V. (See Fig. 5.)



Connecting Lights to sPDS-480ca 24V

WARNING: Ensure power is off before connecting lights. Disconnect power using the power switch on the back of sPDS-480ca 24V. Failure to do so could result in death or serious injury and will void the warranty.

- Plug a fixture connector into a power output port on the back of sPDS-480ca 24V. Ports are labeled 1 through 8. (See Fig. 5.)
- Refer to Table 1 below to determine maximum number of fixtures supported per sPDS-480ca 24V. Refer to the Installation Instructions the fixture for specific wiring requirements.

Table 1: Maximum Fixtures Supported per sPDS-480ca 24V

Fixture	Maximum per sPDS-480ca 24V	Maximum per Power Port
eW Flex Micro	8	1
eW Flex Compact	8	1
iColor Cove QLX 6 in	240	30
iColor Cove QLX 12 in	160	20
iColor Cove EC 7 in	240	30
iColor Cove EC 12 in	240	30

Connecting Ethernet Data to sPDS-480ca 24V

sPDS-480ca 24V receives data from, and is controlled by, Light System Manager (LSM) or Video System Manager (VSM). LSM consists of Light System Composer software and Light System Engine hardware and VSM consists of Video Management Tool software and Video System Engine hardware.

A dedicated network comprised of one or more Ethernet switches is required for your installation. Refer to the LSM User Guide or the VSM User Guide for setup and configuration information.

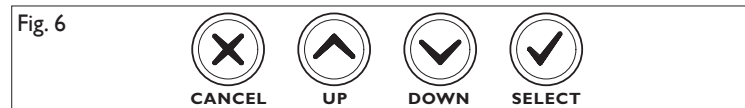
- Use a CAT5 cable to connect the Ethernet switch into the Ethernet IN port on the front of sPDS-480ca 24V.

sPDS-480ca 24V FUNCTIONS

sPDS-480ca 24V features on-board configuration and monitoring functions. Using the control buttons and LCD display located on the front of the supply, you can configure the unit's behavior, monitor its status, and test attached lights.

Button Functions

The four front panel buttons (CANCEL, UP, DOWN, and SELECT) let you navigate through the menu tree and select functions. (See Fig. 6.)



UP — Pressing the UP button scrolls up through the menus, and increments numeric options.

DOWN — Pressing the DOWN button scrolls down through the menus, and decrements numeric options.

SELECT — Press the SELECT button to choose a menu option, performance action, or to save a setting.

CANCEL — Press the CANCEL button to return to the previous screen.

Menu Structure of the LCD Display

This section details the various menu options available on the front panel of sPDS-480ca 24V. Use the control buttons to navigate through the menus. The main menu tree consists of five main menus: VIEW STATUS, CONFIGURE, TEST, RESET SYSTEM, and ABOUT.

- **VIEW STATUS:** From the View Status menu, you can review the unit's network configuration and performance, thermal conditions, and the number of lights detected on each port.
- **CONFIGURE:** From the Configure menu, you can set the IP Address, discover how many lights are attached, configure thermal properties, adjust the brightness of the LCD backlight, and restore certain settings to factory defaults.
- **TEST:** From the Test menu, you can perform basic tests of the attached lights without the need for an external controller.
- **RESET SYSTEM:** The Reset System command reboots the unit as if you had turned the power off and back on.
- **ABOUT:** The About menu displays system information, including model number and revision.

VIEW STATUS

Command	Options	Description
NETWORK	NET: IP ADDRESS 0.0.0.0	Displays IP address of the sPDS-480ca 24V.
	MAC ADDRESS	Displays MAC address of the sPDS-480ca 24V.
	DATA RATE	Displays an estimate of network bandwidth being used, in kilobytes per second.
	SERIAL NUMBER	Displays the unit's unique serial number.
LIGHTS	LIGHTS PER PORT (1-8)	Displays the number of lights detected per port. NOTE: The message "(not yet scanned)" indicates that you must choose the Scan Lights option from the Configure menu.

Command	Options	Description
TEMPERATURE	INTERNAL TEMP	Displays an estimate of the unit's internal temperature.
	MIN / MAX TEMP	Displays minimum and maximum temperature recorded since power was turned on.
	FAN STATUS	Displays whether the fan is off or on, and how fast it is running (as a percentage of max speed).

CONFIGURE

Command	Options	Description
SET IP ADDRESS	10.0.0.0 (Last three segments can be 0-255).	Allows you to set the IP address (see <i>Setting the IP Address.</i>)
SCAN LIGHTS	Press the Select button to start scanning.	Counts how many lights are attached to each port. Results are then shown in the Lights Per Port section of the Status menu.
FAN SETTINGS	Low Medium High Auto	Low or Medium: Fan runs continuously at low or medium speed, unless a temperature rise is detected which forces the fan to High. High: The fan runs continuously at high speed at all times. Auto: The fan turns on and the speed modulates based on internal temperature.
THERMAL SETTINGS	WHEN I OVERHEAT: - Turn off lights (default) - Ramp down lights - Stay on	Allows you to select the action to be taken if the unit overheats. Press Select to save your choice.
LCD BACKLIGHT	Bright (default) Medium Dim Auto-Dim	Allows you to select the brightness of the LCD backlight. Auto-Dim dims the backlight when no buttons have been pressed for 15 seconds. Press Select to save your choice.
RESTORE DEFAULTS	Press the Select button to restore defaults.	Restores factory default settings for backlight and thermals. Network configuration remains unchanged.

TEST / RESET SYSTEM / ABOUT

Command	Options	Description
TEST LIGHTS	All Off All Red All Green All Blue All White	Single Port Single Light Rainbow
TEST	Fans on full	Allows you to test the fans. Press the Select button to start test. Fans run on full for a short time, then turn off automatically.
RESET SYSTEM	Press the Select button to restart.	Resets the unit, as if you had turned the power off and back on.
ABOUT	Press the Down button to scroll through the information.	Displays system information, including model number and revision of the firmware.

Setting the IP Address

1. Use the control buttons (up and down arrows) to scroll through and set the values for the IP Address fields. Press the Select button to accept the value and jump to the next segment. Use the Cancel button to return to the previous field.
2. After setting all values, press the Select button. The system prompts you to press the Select button to confirm. The system indicates the IP address was saved.

NOTE: If you do not confirm the IP address, it will not be saved.

NOTE: The first field (10) cannot be changed and the address should not be set to 10.1.3.100 or 10.1.3.101.

Over-Temperature Detection

The sPDS-480ca 24V includes an over-temperature detection circuit. You can choose what the unit does when an over-temperature condition is detected: Turn off lights, Ramp down lights, or Stay on. "Turn off lights" sets the lights to black, and resumes normal operation if temperatures drop. "Ramp down lights" smoothly reduces brightness, in an attempt to bring temperature under control without an abrupt cutoff. "Stay on" keeps the lights operating regardless of temperature.

CAUTION: If an over-temperature condition is detected, the unit will flash the LCD backlight. Navigate to the Startup screen (by pressing the Cancel button one or more times) to see the relevant message. An over-temperature condition ALWAYS indicates that the unit is operating beyond its rated specifications, regardless of what you have configured the unit to do in response. The over-temperature feature is intended to detect and mitigate exceptional conditions, like blocked air intakes, that may cause catastrophic failure. In a properly operating installation, an sPDS-480ca 24V should never go over-temperature. Failure to comply may result in minor or moderate injury or property damage and will void the warranty.

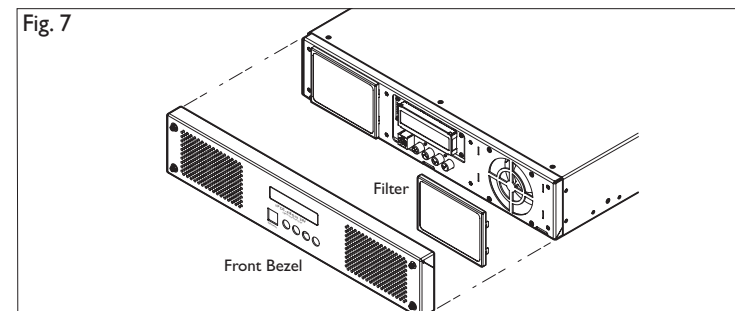
MAPPING THE LIGHTS USING sPDS-480ca 24V

- Once sPDS-480ca 24V installation is complete, use Light System Manager or Video System Manager to map the light installation.
- Once the power / data supplies and lights have been mapped, then you are ready to begin designing shows or playing video. No addressing is required.

Refer to the Light System Manager User Guide or Video System Manager User Guide for complete instructions.

CLEANING AIR INTAKE FILTER

To prevent overheating, inspect the air intake filter regularly and clean as needed. The air intake filters are located behind the front bezel of sPDS-480ca 24V. (See Fig. 7.)



1. Disconnect power.

WARNING: Ensure power is off before cleaning the filter. Failure to do so could result in death or serious injury and will void the warranty.

2. Using a Phillips head screwdriver, loosen the four captive screws on the front of the bezel, and then remove the bezel by pulling it straight out from sPDS-480ca 24V.
3. Remove the filters by lifting up and out.
4. Clean the filters with water, and then air dry completely.
5. Replace the filter in the filter cover, and then replace the front bezel. Never operate sPDS-480ca 24V with the front bezel off. (See Fig. 7.)

REPLACING FUSES

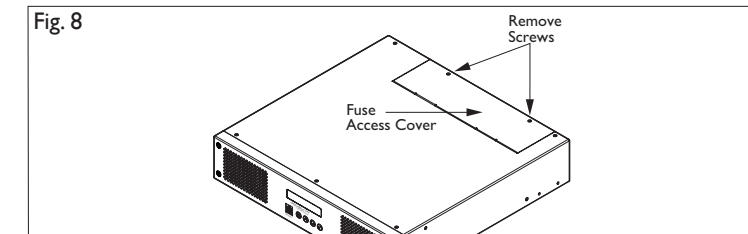
sPDS-480ca 24V contains eight 4A, 125V, 5x20 Fast Blow fuses. In the event that a fuse blows, it must be replaced.

When a fuse blows, the background on the LCD display flashes to alert you of a problem. Navigate to the Startup screen (by pressing the Cancel button one or more times) to see that message. An example of the message is as follows: *Check Port 7 Fuse.* That message continues to flash until the fuse is replaced.

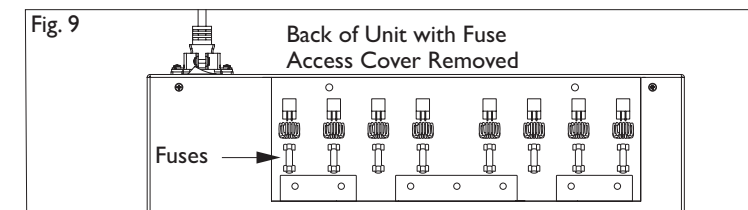
1. Disconnect power to sPDS-480ca 24V.

WARNING: Ensure power is off before replacing fuses. Failure to do so could result in death or serious injury and will void the warranty.

2. Remove the two screws on the Fuse Access Cover using a Phillips head screwdriver. (See Fig. 8.)



The fuses are located beneath that access cover. (See Fig. 9.)



3. Remove the blown fuse and replace it with a new 4A, 125V, 5x20 Fast Blow fuse.
4. Replace the Fuse Access Cover and tighten the two screws.
5. Power on sPDS-480ca 24V.

sPDS-480ca 24V SPECIFICATIONS

POWER INPUT	100 – 240 VAC auto ranging (50 – 60Hz)
MAX. INPUT CURRENT	6A - 2.5A, 50 – 60 Hz
POWER OUTPUT	24 VDC, 480 W
HEAT DISSIPATION	25 percent of total power input
AMBIENT TEMP	14° – 122° F (-10° – 50° C)
HOUSING	Overall dimensions: 19 x 18 x 3.5 in (483 x 457 x 89 mm)
CONNECTORS	Data: RJ-45 input connector Power Output: 8 4-pin output connectors Power Input: IEC 320 receptacle type C13 with locking clamp
DATA INPUT INTERFACE	Ethernet using Light System Manager or Video System Manager
DATA OUTPUT INTERFACE	Chromasic 24V
ENVIRONMENT	Dry Location
CLASSIFICATION	Class 2
LISTINGS	UL / cUL, CE

Warranty

This product is sold pursuant to Color Kinetic Standard Terms and Conditions (the "T&Cs") which may be found at colorkinetics.com/howtobuy/buy/terms and which contain important provisions, including, among others, Limited Warranty, exclusions and limitations on liability for damages, and restrictions on the remedies that are available to you.